Volunteer Lake Assessment Program Individual Lake Reports

FLINTS POND, HOLLIS, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	692	**Max. Depth (m):**	2.7	**Flushing Rate (yr^{-1}):**	4.5
Surface Area (Ac.):	48	**Mean Depth (m):**	1.5	**P Retention Coef:**	0.6
Shore Length (m):	1,800	**Volume (m^3):**	294,500	**Elevation (ft):**	197

TROPHIC CLASSIFICATION

Year	Trophic class
2006	EUTROPHIC
2008	EUTROPHIC

KNOWN EXOTIC SPECIES

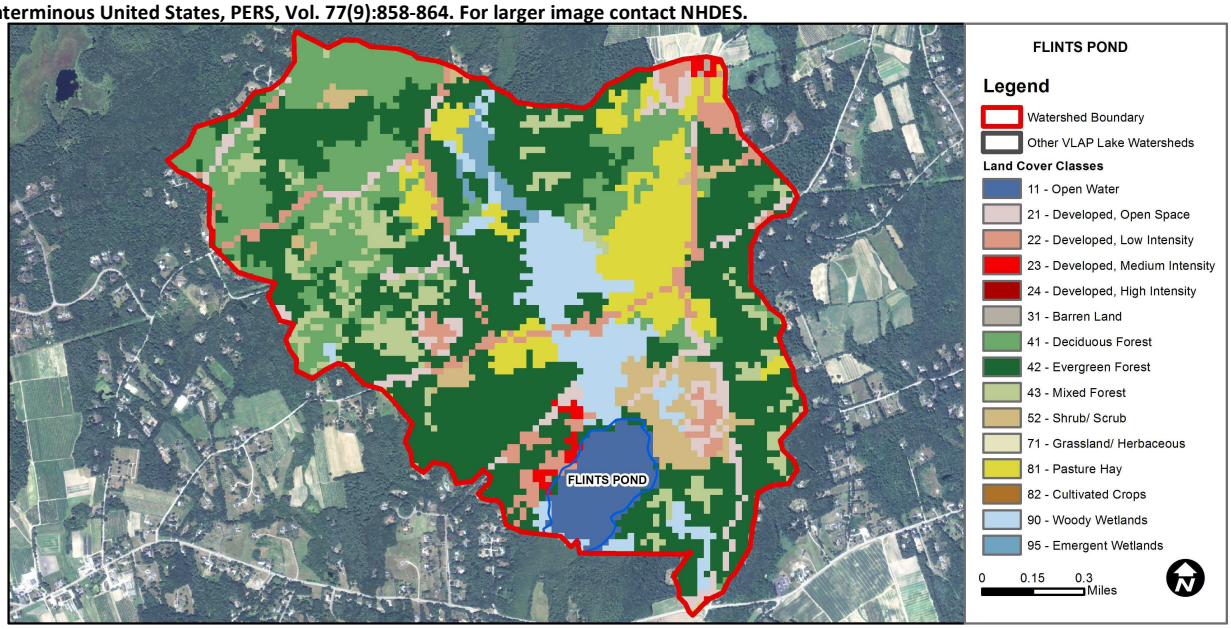
Variable Milfoil

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Good	At least 10 samples with 1 sample but < 10% of samples exceeding criteria.
	D.O. (mg/L)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (% sat)	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	Chlorophyll-a	Good	>/=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Chlorophyll-a	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	4.06	Barren Land	0.05	Grassland/Herbaceous	0
Developed-Open Space	4.82	Deciduous Forest	15.7	Pasture Hay	9.32
Developed-Low Intensity	5.75	Evergreen Forest	40.17	Cultivated Crops	0
Developed-Medium Intensity	0.73	Mixed Forest	6.64	Woody Wetlands	7.84
Developed-High Intensity	0	Shrub-Scrub	3.78	Emergent Wetlands	1.13

VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS
FLINTS POND, HOLLIS, NH
2013 DATA SUMMARY

OBSERVATIONS AND RECOMMENDATIONS (*Refer to Table 1 and Historical Deep Spot Data Graphics)*

- **CHLOROPHYLL-A:** Chlorophyll levels were average in June, decreased to low levels in July and increased to above average levels in August. The 2013 average chlorophyll level was slightly less than the state median and consistent with the 2012 value. Visual inspection of historical data indicates variable chlorophyll levels.
- **CONDUCTIVITY/CHLORIDE:** Epilimnetic conductivity was slightly elevated and greater than the state median. Visual inspection of historical data indicates relatively stable epilimnetic conductivity.
- **TOTAL PHOSPHORUS:** Epilimnetic phosphorus increased gradually as the summer progressed and with lower water levels in July and August. The 2013 average epilimnetic phosphorus level was greater than the state median and consistent with the 2012 value. Visual inspection of historical data indicates variable epilimnetic phosphorus.
- **TRANSPARENCY:** Transparency was good in June, decreased in July likely due to the time of day measured, and in August likely due to algal growth. The 2013 average transparency was slightly consistent with 2012 and visual inspection of historical data indicates relatively stable transparency.
- **TURBIDITY:** Turbidity was slightly elevated in July and August and average in July when algal growth was lower. Stormwater runoff and/or algal growth likely contributed to the higher turbidities in June and August.
- **PH:** Epilimnetic pH was greater than the recommended range of 6.5 – 8.0 units in June, and was within the range in July and August. Visual inspection of historical data indicates variable epilimnetic pH levels.
- **RECOMMENDED ACTIONS:** Maintain current monitoring program to re-establish baseline water quality data and trends. The increased frequency and intensity of storm events highlights the importance of managing stormwater runoff before it enters tributaries and the pond. DES' "Homeowner's Guide to Stormwater Management" is a great resource. Keep up the great work!

Table 1. 2013 Average Water Quality Data for FLINTS POND

Station Name	Alk.	Chlor-a	Cond.	Total P	Trans.		Turb.	pH
	mg/l	ug/l	uS/cm	ug/l	m		ntu	
					NVS	VS		
Epilimnion	32.4	4.38	124.6	17	2.18	2.04	2.54	7.91

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.
Alkalinity: 4.9 mg/L
Chlorophyll-a: 4.58 mg/m^3
Conductivity: 40.0 uS/cm
Chloride: 4 mg/L
Total Phosphorus: 12 ug/L
Transparency: 3.2 m
pH: 6.6

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.
Chloride: < 230 mg/L (chronic)
E. coli: > 88 cts/100 mL – public beach
E. coli: > 406 cts/100 mL – surface waters
Turbidity: > 10 NTU above natural level
pH: 6.5-8.0 (unless naturally occurring)

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation	Parameter	Trend	Explanation
pH	N/A	Ten consecutive years of data necessary.	Chlorophyll-a	N/A	Ten consecutive years of data necessary.
Conductivity	N/A	Ten consecutive years of data necessary.	Transparency	N/A	Ten consecutive years of data necessary.
			Phosphorus (epilimnion)	N/A	Ten consecutive years of data necessary.